Instructions for Turning on and Ramping AGS Cold Snake Power Supplies

Changes from last set of instructions dated 1/13/06, in blue:

Clarification on changing setpoints or ramping the AGS Cold Snake p.s.'s

1) Go to StartUp. Click on Start>AGS Applications>Snake Control and you can change the setpoints to these p.s.'s without knowing the ramp rates, HOWEVER, you still must use these instructions to tell you in what order you can ramp these p.s.'s. OR follow step 2 instructions.
2) Use the ramping instructions, below, with a pet page.

Turn On Instructions

1) The ags beam permit should be tested at the beginning of every run for the AGS cold snake ps system. This can be done by turning on all of the p.s.'s at zero current and tripping the helical p.s. to a fault state. The AGS beam permit should drop. This is a reminder for D. Bruno
2) From an x-terminal go into Wing's directory: "cd ~wing" and run these scripts.
3) Scripts are case sensitive:
    a. For A20-csnk-t1-ps type: coldSnakeTrim1On
    b. For A20-csnk-t2-ps type: coldSnakeTrim2On
    c. For A20-csnk-sol-ps (Solenoid PS) type: coldSnakeSolOn
    d. For A20-csnk-ps (Helical PS) type: coldSnakeHelOn
    e. To turn on all power supplies with one script use: coldSnakeAllOn

Maximum Current for Power Supplies

1) Do not exceed 338A for A20-csnk-ps (helical) the DC overcurrent is set for 360A.
2) Do not exceed 300A for A20-csnk-sol--ps (solenoid) the DC overcurrent is set for 325A.
3) Do not exceed ±40A for the A20-csnk-t1-ps and A20-csnk-t2-ps (trim) p.s.'s.

Ramping up (SEE RAMPING WAVEFORMS):

1) Ramp the helical (A20-csnk-ps) to 2A in 10 seconds. This is the park current. Make sure the current readback says 2A before ramping any further.
2) Ramp the helical (A20-csnk-ps) no faster than 1A/sec and do not exceed 338A.
3) Ramp the A20-csnk-sol-ps (solenoid) to 2A in 10 seconds. This is the park current. Make sure the current readback says 2A before ramping any further.
4) Ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps at no faster than 3A/sec to their operating current.

Ramping down to any current including zero (SEE RAMPING WAVEFORMS):

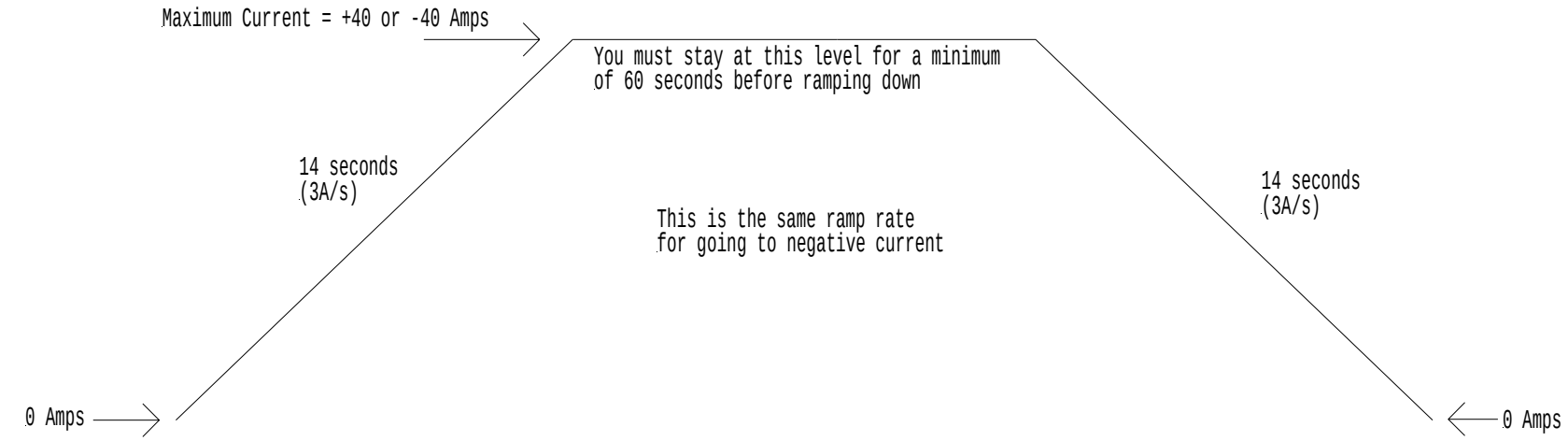
1) FIRST, ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps down to the desired current at no faster than 3A/sec.
2) Once A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps are at the desired current you can ramp the helical (A20-csnk-ps) down at no faster than 0.25A/s but you must stop at 30A for approximately 30 seconds if you intend to go lower than 30A. Then you can continue to ramp down from 30A to zero in 0.1A /s

Ramping down to zero current:

1) FIRST, ramp the A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps down to zero at no faster than 3A/sec.
2) Once A20-csnk-sol-ps, A20-csnk-t1-ps and A20-csnk-t2-ps are at zero current put the helical (A20-csnk-ps) into STBY while it is sitting at its operating current. There is a slow discharge circuit that will take over and discharge the magnet without quenching it.

This Ramp Applies to ONLY:

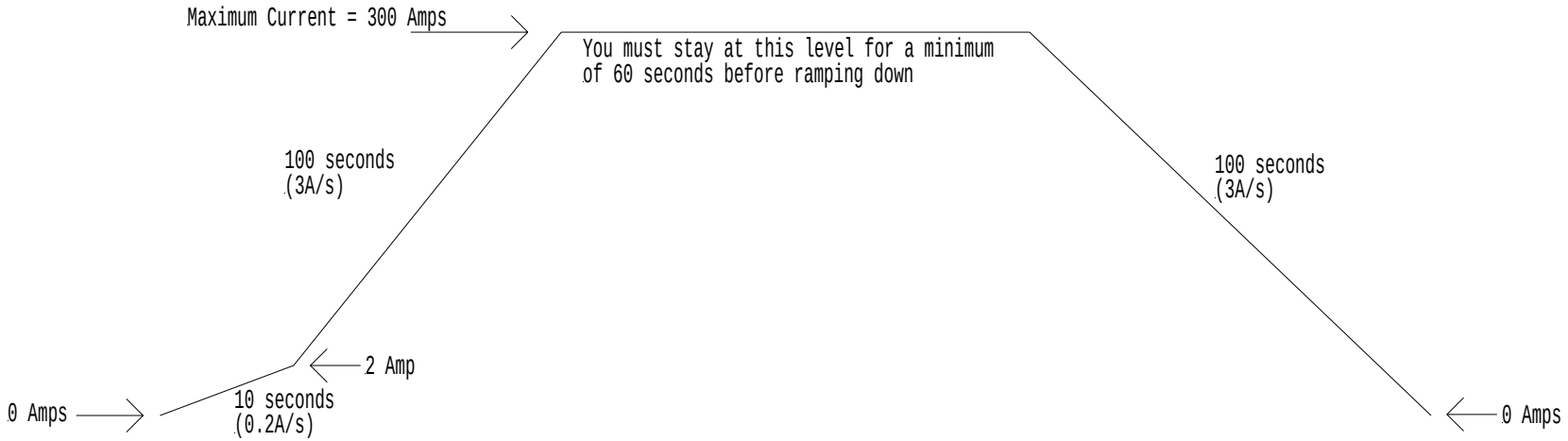
A20-csnk-t1-ps
A20-csnk-t2-ps



t1-ramp-1-12-06.skf
1/12/06

This Ramp Applies to ONLY:

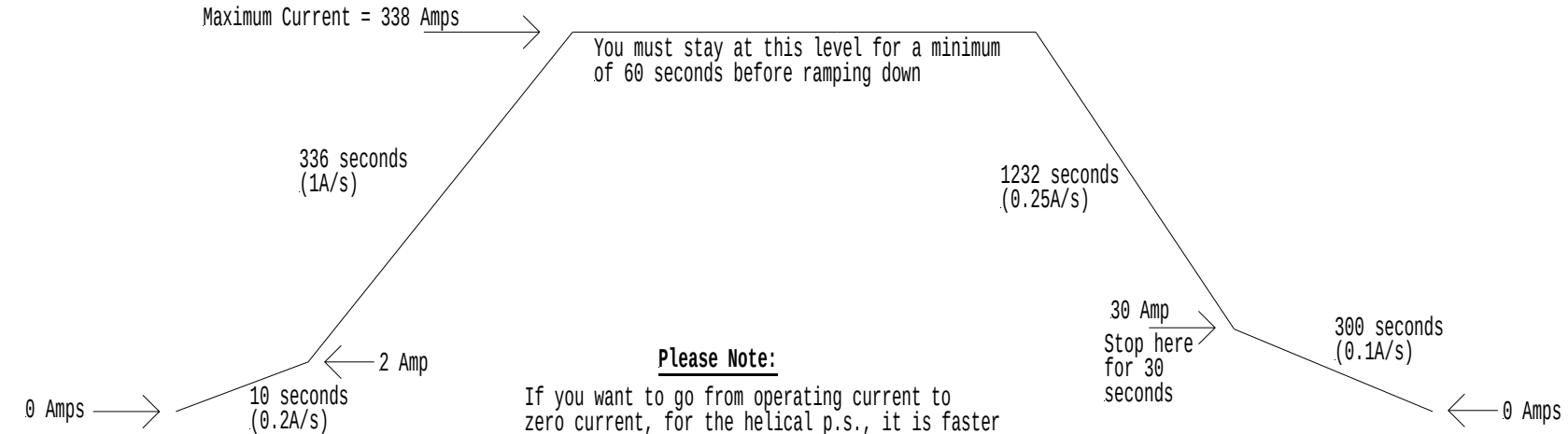
A20-csnk-sol-ps



sol-ramp-1-12-06.skf
1/12/06

This Ramp Applies to ONLY:

A20-csnk-ps (Helical)



Please Note:

If you want to go from operating current to zero current, for the helical p.s., it is faster to just bring the other 3 p.s.'s to zero current and then put the helical p.s. into STBY while you are still at its operating current.

hel-ramp-1-12-06.skf
1/12/06